N61331.AR.001682
NSA PANAMA CITY
5090.3a

CLOSURE ASSESSMENT REPORT FOR THE FORMER 2000 GALLON UNDERGROUND STORAGE TANK SYSTEM NEAR BUILDING 327 NSA PANAMA CITY FL

6/1/1992

TERRA ENVIRONMENTAL SERVICES

Closure Assessment Report
For the Former 2,000-Gallon
Underground Storage Tank System
Near Building ~~378~~ 327
U.S. Navy Coastal Systems Center

Prepared For

U.S. Navy Coastal Systems Center
Panama City, Florida

By

Terra Environmental Services, Inc.

June 1992

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APPENDICES

1.0 INTRODUCTION

On June 1, 1992, Terra Environmental Services, Inc. was retained by the U.S. Navy Coastal Systems Center to conduct a Closure Assessment for an underground storage tank (UST) system at Building 378 at the Coastal Systems Station facility in Panama City, Florida (the site). A 2,000-gallon gasoline UST and approximately 200 linear feet of product piping were closed by removal. The former locations of the UST system and piping are shown on Figure 1.

2.0 BACKGROUND

Reportedly, in August 1991 Coastal Systems Station contracted B&K Construction to remove a 2,000-gallon gasoline UST and approximately 200 linear feet of associated product piping at the site. No soil or ground-water samples were collected at the time of closure. The dispenser was left in service, and is now supplied from an aboveground storage tank. The dispenser is located on an elevated fueling dock approximately 15 feet from shore.

3.0 WORK PERFORMED

On June 8, 1992 a Closure Assessment was conducted at the site in accordance with the requirements of Chapter 17-761 of the Florida Administrative Code (FAC) and applicable FDER guidance. A completed FDER Closure Assessment Form is included as Appendix A.

3.1 Closure Assessment for the Gasoline UST

Six soil samples (SB-1 through SB-6) were collected from the area of the former 2,000-gallon gasoline UST for field analysis of soil vapor levels with a HeathTech PortaFID II organic vapor analyzer equipped with a flame ionization detector (FID). Sampling locations are shown on Figure 2. At each location, a soil boring was drilled to the water table using a stainless steel hand auger. The water table was encountered at approximately three to four feet below land surface (bls). Soil samples were collected at two-foot intervals, placed in glass jars, sealed with aluminum foil, and allowed to equilibrate. The headspace of each jar was then analyzed for total organic soil vapors with an FID. Soil samples exhibiting readings greater than 10 parts per million (ppm) also were analyzed with an FID equipped with an activated carbon filter to evaluate the contribution of naturally-occurring vapors, such as methane, to the total reading. A corrected reading was obtained by subtracting the filtered reading from the unfiltered reading (Section 17-770.200[2], FAC).

Temporary Monitor Well TMW-1 was installed in the former area of the UST (Figure 3) using a stainless steel hand auger. A four-inch diameter borehole was drilled to approximately five feet below land surface. Subsequently, a five-foot section of two-inch diameter, 0.010-inch slot, threaded-joint PVC well screen fitted with a PVC well point was installed in the borehole. The annular

space was backfilled to land surface with native material. The well was developed and purged for sampling by bailing with a clean Teflon® bailer.

A ground-water sample was collected from the temporary monitor well and submitted to Analytical Technologies, Inc. (ATI) in Pensacola, Florida for analysis of volatile organic aromatics (VOAs) plus xylenes and methyl tert-butyl ether (MTBE) by U.S. Environmental Protection Agency (EPA) Method 602. All equipment decontamination and sampling was conducted in accordance with Terra Environmental's FDER-approved Comprehensive Quality Assurance Plan (CompQAP). All laboratory analyses were conducted in accordance with ATI's CompQAP.

3.2 Closure Assessment for Product Piping

Six soil samples (SB-7 through SB-12) were collected along the area of the former piping run with a stainless steel hand auger for field analysis of soil vapor levels with an FID (Figure 4). The samples were collected at two-foot intervals until the water table was encountered at approximately 3 to 4 feet bls. The samples were collected and analyzed in accordance with the methodologies previously discussed in Section 3.1.

4.0 RESULTS

4.1 Gasoline UST

"Excessively contaminated" soil exhibiting soil vapor levels greater than 500 parts per million (ppm), as defined in Section 17-770.200(2), FAC was detected in soil samples collected from Soil Borings SB-1 and SB-3. Results of organic vapor measurements for the soil samples collected from the area of the excavation are listed in Table 1, and shown on Figure 2.

Analytical results for the ground-water sample collected from Temporary Monitor Well TMW-1 indicate that concentrations of benzene (160 micrograms per liter [µg/L]) and total VOAs (1,320) exceed the FDER criteria of 1 µg/L and 50 µg/L, respectively. No MTBE was detected in the ground-water sample. The laboratory report is presented in Appendix B.

4.2 Product Piping

Elevated organic vapor readings (250 ppm and 100 ppm) were obtained from Soil Boring SB-10 (Figure 4). Although the readings would identify the soil as "contaminated" (FDER January 1989 document, Guidelines for Assessment and Remediation of Petroleum-Contaminated Soils) no hydrocarbon odor was detected. In addition, the filtered readings were elevated, indicating the presence of methane in the soil. Based on these site-specific observations, a ground-water sample was not collected.

5.0 CONCLUSIONS

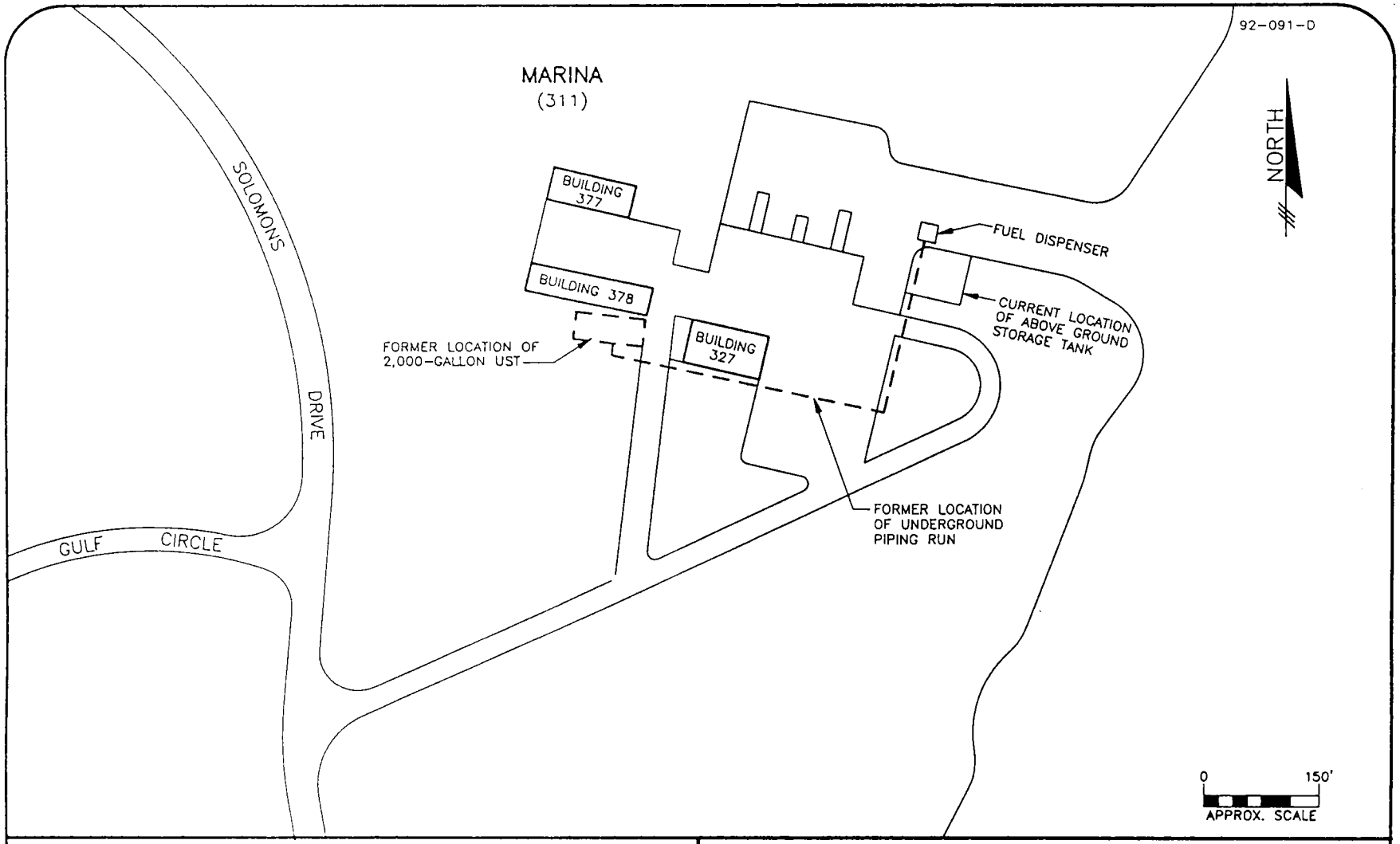
Soil and ground-water quality impacts above applicable FDER target levels were detected in the former area of the 2,000-gallon gasoline UST. No conclusive evidence of a release was detected along the former location of the product piping.

TABLE 1. RESULTS OF ORGANIC SOIL VAPOR MEASUREMENTS FOR SOIL SAMPLES COLLECTED FROM THE UNSATURATED ZONE

Sample Designation	Sample Depth (feet bls)1/	Organic Vapor Concentrations (in parts per million)		
		Unfiltered[2/] (A)	Filtered[3/] (B)	Corrected (A-B)
Soil Borings in the Area of the Former Gasoline UST				
SB-1	0-2 2-3	4 3,400	NA[4/] 800	4 2,600
SB-2	0-2 2-3	4 4	NA NA	4 4
SB-3	0-2 2-4	800 >5,000	600 1,200	200 >3,800
SB-4	0-2 2-3	<1 <1	NA NA	<1 <1
SB-5	0-2 2-3	<1 240	NA 1,000	<1 <1
SB-6	0-2 2-3	<1 <1	NA NA	<1 <1
Soil Borings Along the Former Piping Run				
SB-7	0-2 2-3	<1 <1	NA NA	<1 <1
SB-8	0-2 2-3	<1 <1	NA NA	<1 <1
SB-9	0-2 2-4	50 1,500	250 1,500	<1 <1
SB-10	0-2 2-4	600 4,500	350 4,400	250* 100*
SB-11	0-2 2-3	<1 <1	NA NA	<1 <1
SB-12	0-2	14	10	4

1/ feet bls = feet below land surface
2/ Unfiltered readings collected using the FID
3/ Filtered reading collected using the FID with an activated carbon filter attachment
4/ NA = not analyzed

* Samples collected from area of high organic content. No hydrocarbon odor was detected in the samples.



Figue 1. Site Layout

CLIENT

COASTAL SYSTEMS STATION
PANAMA CITY, FLORIDA

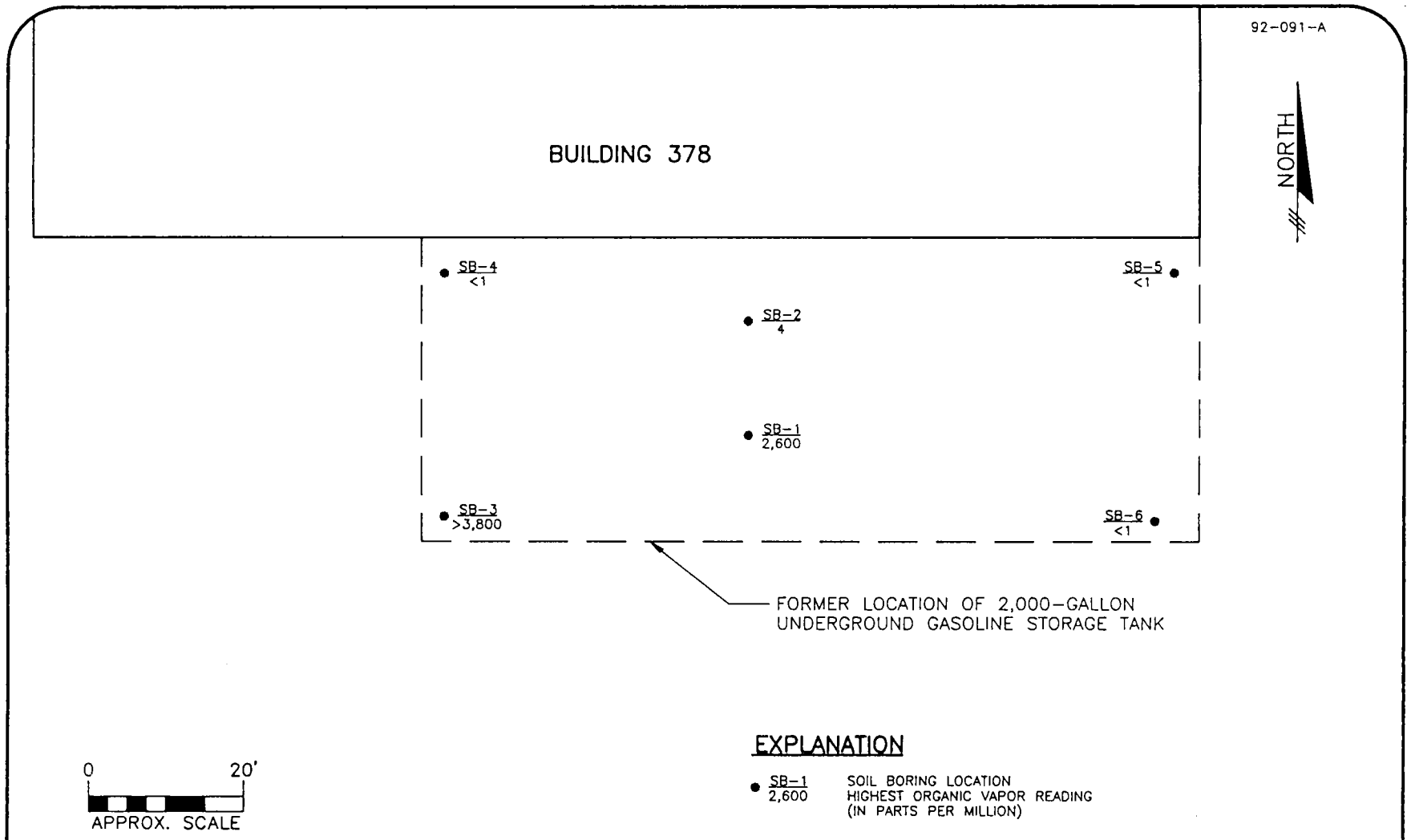


Figure 2. Soil Boring Locations and Organic Vapor Readings in the Area of the Former Gasoline UST

CLIENT

COASTAL SYSTEMS STATION
PANAMA CITY, FLORIDA

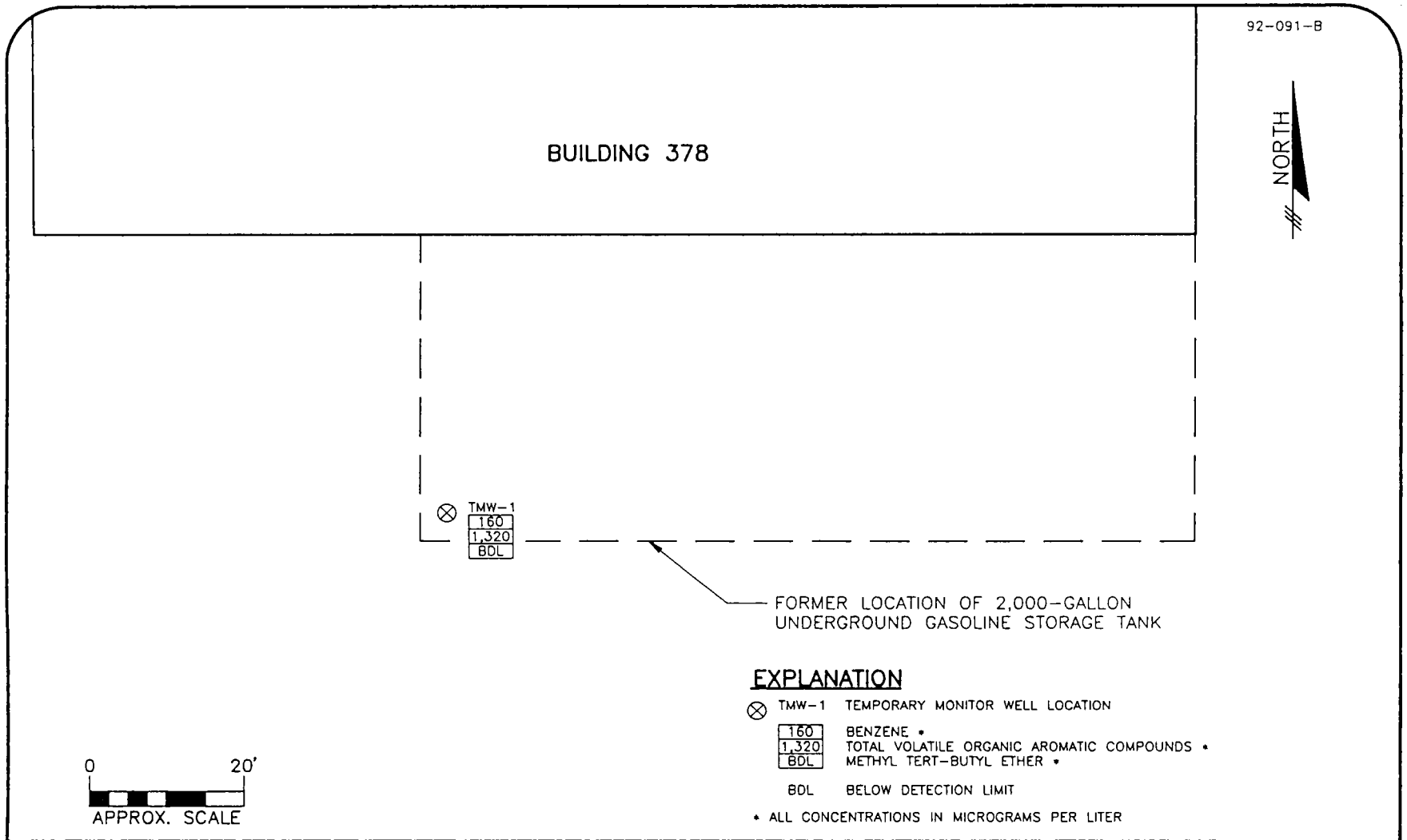


Figure 3. Temporary Monitor Well Location and Analytical Results

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COASTAL SYSTEMS STATION
PANAMA CITY, FLORIDA

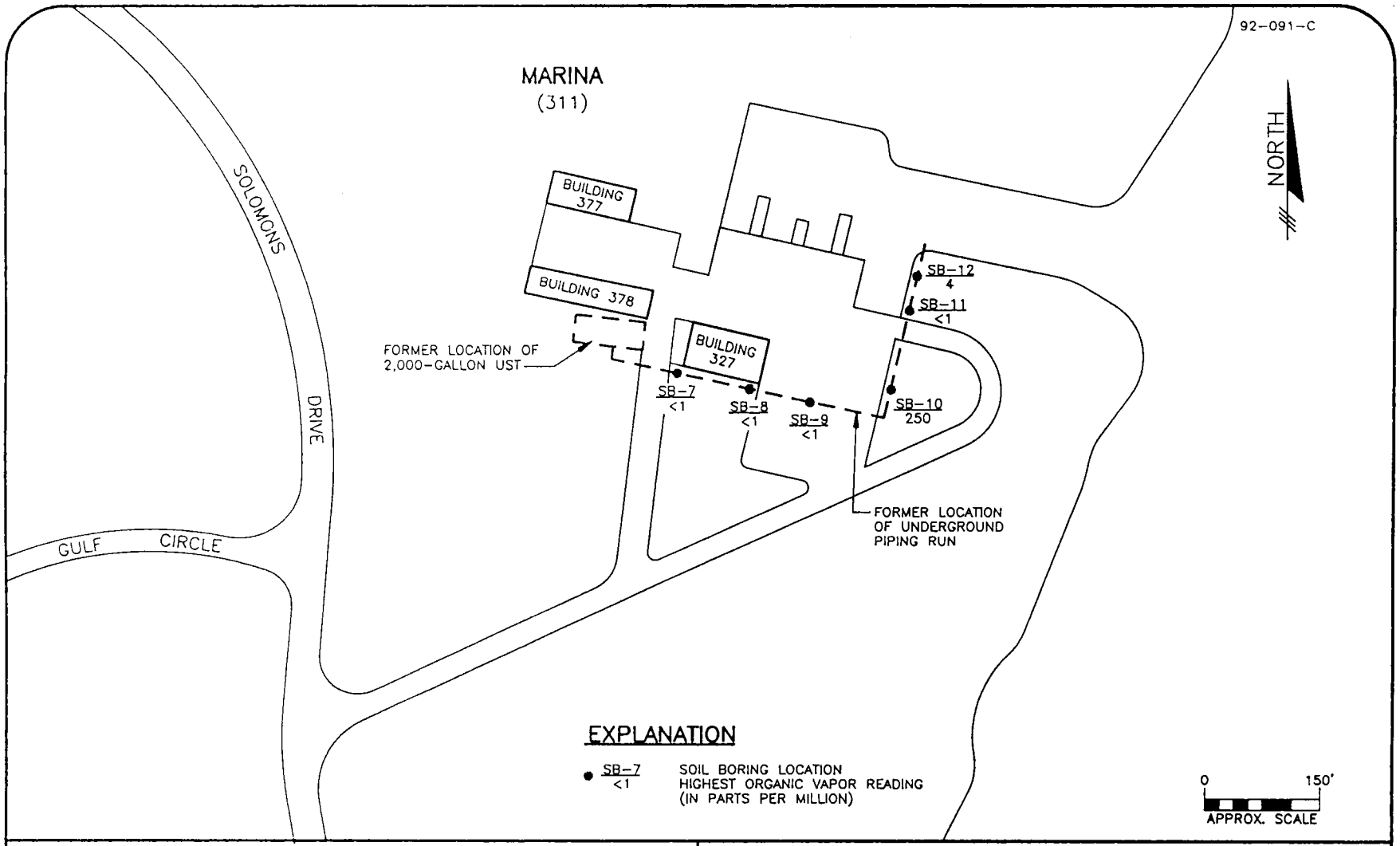

Figure 4. Soil Boring Locations and Organic Vapor Readings Along the Former Unerground Piping Run

CLIENT

COASTAL SYSTEMS STATION
PANAMA CITY, FLORIDA

APPENDIX A

Closure Assessment Form for the 2,000-Gallon Gasoline UST

Florida Department of Environmental Regulation
Twin Towers Office Bldg. • 2600 Blair Stone Road • Tallahassee, Florida 32399-2400

DER Form # 17-761.900(6)
Form Title Closure Assessment Form
Effective Date December 10, 1990
DER Application No. _____ (Filled in by DER)

Closure Assessment Form

Owners of storage tank systems that are replacing, removing or closing in place storage tanks shall use this form to demonstrate that a storage system closure assesment was performed in accordance with Rule 17-761 or 17-762, Florida Administrative Code. Eligible Early Detection Incentive (EDI) and Reimbursement Program sites do not have to perform a closure assessment.

Please Print or Type
Complete All Applicable Blanks

1. Date: June 29, 1992
2. DER Facility ID Number: _____ 3. County: Bay
4. Facility Name: Naval Coastal Systems Center
5. Facility Owner: U.S. Department of Defense
6. Facility Address: Coastal System Station, Panama City, Florida 32407-5000
7. Mailing Address: Officer in Charge of Construction, Building 126, Coastal Systems Station, Panama City, Florida 32407-5000
8. Telephone Number: (904) 234-4290 9. Facility Operator: Department of the Navy
10. Were the Storage Tank(s): **(Circle one or both)** A. Aboveground or (B. Underground)
11. Type of Product(s) Stored: Unleaded Gasoline
12. Were the Tank(s): **(Circle one)** A. Replaced (B. Removed) C. Closed in Place D. Upgraded (aboveground tanks only)
13. Number of Tanks Closed: One (1) 14. Age of Tanks: _____

Facility Assessment Information

Yes	No	Not Applicable	
☐	☒		1. Is the facility participating in the Florida Petroleum Liability Insurance and Restoration Program (FPLIRP)?
☒	☐		2. Was a Discharge Reporting Form submitted to the Department? If yes, When: _____ Where: FDER-Northwest District
☒	☐		3. Is the depth to ground water less than 20 feet?
☐	☒	☐	4. Are monitoring wells present around the storage system? If yes, specify type: ☐ Water monitoring ☐ Vapor monitoring
☐	☐	☒	5. Is there free product present in the monitoring wells or within the excavation?
☒	☐	☐	6. Were the petroleum hydrocarbon vapor levels in the soils greater than 500 parts per million for gasoline? Specify sample type: ☐ Vapor Monitoring wells ☒ Soil sample(s)
☐	☐	☒	7. Were the petroleum hydrocarbon vapor levels in the soils greater than 50 parts per million for diesel/kerosene? Specify sample type: ☐ Vapor Monitoring wells ☐ Soil sample(s)
☒	☐	☐	8. Were the analytical laboratory results of the ground water sample(s) greater than the allowable state target levels? (See target levels on reverse side of this form and supply laboratory data sheets)
☐	☐	☒	9. If a used oil storage system, did a visual inspection detect any discolored soil indicating a release?
☐	☐	NA	10. Are any potable wells located within ¼ of a mile radius of the facility?
☒	☐		11. Is there a surface water body within ¼ mile radius of the site? If yes, indicate distance: 300 feet

Northwest District
160 Governmental Center
Pensacola, Florida 32501-5794
904-436-8300

Northeast District
7825 Baymeadows Way, Suite B 200
Jacksonville, Florida 32207
904-798-4200

Central District
3319 Maguire Blvd. Suite 232
Orlando, Florida 32803-3767
407-894-7555

Southwest District
4520 Oak Fair Blvd
Tampa, Florida 33610-7347
813-623-5561

South District
2269 Bay St
Fort Myers, Florida 33901-2896
813-332-6975

Southeast District
1900 S. Congress Ave., Suite A
West Palm Beach, Florida 33406
407-433-2650

DER Form # 17-761.900(6)
Form Title Closure Assessment Form
Effective Date December 10, 1990
DER Application No. _____ (Filled in by DER)

12. A detailed drawing or sketch of the facility that includes the storage system location, monitoring wells, buildings, storm drains, sample locations, and dispenser locations must accompany this form.
13. If a facility has a pollutant storage tank system that has both gasoline and kerosene/diesel stored on site, both EPA Method 602 and EPA Method 610 must be performed on the ground water samples obtained.
14. Amount of soils removed and receipt of proper disposal.
15. If yes is answered to any one of questions 5-9, a Discharge Reporting Form 17-761.900(1) indicating a suspected release shall be submitted to the Department within one working day.
16. A copy of this form and any attachments must be submitted to the Department's district office in your area and to the locally administered program office under contract with the Department within 60 days of completion of tank removal or filling a tank with an inert material.

Signature of Owner — Date

Daniel W. Fonfara — 6/29/92

Signature of Person Performing Assessment — Date

Hydrogeologist/Project Scientist

Title of Person Performing Assessment

State Ground Water Target Levels That Affect A Pollutant Storage Tank System Closure Assessment

State ground water target levels are as follows:

1. For gasoline (EPA Method 602):
   a. Benzene 1 ug/l
   b. Total VOA 50 ug/l
      - Benzene
      - Toluene
      - Total Xylenes
      - Ethylbenzene
   c. Methyl Test-Butyl Ether (MTBE) 50 ug/l

2. For kerosene/diesel (EPA Method 610):
   a. Polynuclear Aromatic Hydrocarbons (PAHS) (Best achievable detection limit, 10 ug/l maximum)

APPENDIX B

Laboratory Report for the Ground-Water
Sample Collected from
Temporary Monitor Well TMW-1

Analytical**Technologies,**Inc. 11 East Olive Road Pensacola, Florida 32514 (904) 474-1001

TERRA ENVIRONMENTAL
14902 WINDING CREEK CT
SUITE 101-C
TAMPA FL 33613-0000

Lab I.D.#:	92-5077A
Order Number:	P59449
Received Date:	06/10/92
Client:	19021
Sampled By:	N/S
Sample Date:	06/08/92
Sample Time:	PM

Project Number: 92-091&093
Project Name: COASTAL SYSTEMS STATION
Sample Site: PANAMA CITY, FL
Sample Type: GROUNDWATER

N/S = Not Submitted

R E S U L T S

reported on the following page(s)

Comments: PPB = Parts Per Billion, ug/l; BDL = Below Detection Limit.
Method Reference: Federal Register 40 CFR Part 136, July 1, 1990.

Approved By : Linda Rayon

Analytical**Technologies,**Inc. 11 East Olive Road Pensacola, Florida 32514 (904) 474-1001

Client: TERRA ENVIRONMENTAL

Project Number: 92-091&093
Project Name: COASTAL SYSTEMS STATION
Sample Site: PANAMA CITY, FL
Sample Type: GROUNDWATER

Lab I.D.#: 92-5077A-1
Received Date: 06/10/92
Sampled By: N/S

Sample ID.: TMW-1 Sample Date: 06/08/92 Time: PM

VOL/602+X+MTBE VOLATILE METHOD 602 + XYLENE + MTBE

Parameter	Units	Result	Detection Limit
BENZENE	PPB	160	10
CHLOROBENZENE	PPB	BDL	10
1,2-DICHLOROBENZENE	PPB	BDL	20
1,3-DICHLOROBENZENE	PPB	BDL	20
1,4-DICHLOROBENZENE	PPB	BDL	20
ETHYL BENZENE	PPB	230	10
TOLUENE	PPB	270	50
XYLENES	PPB	660	20
METHYL TERT-BUTYL ETHER	PPB	BDL	50
TRIF-TOLUENE *SURR* LIMITS (70-130)	% REC	90	

end of report

Analytical**Technologies,**Inc. 11 East Olive Road Pensacola, Florida 32514 (904) 474-1001

QUALITY CONTROL DATA

Analytical**Technologies,**Inc. 11 East Olive Road Pensacola, Florida 32514 (904) 474-1001

CLIENT: TERRA ENVIRONMENTAL

PROJECT: 92-091 & 92-093

LAB ID: 92-5077A

METHOD: 602 / Federal Register, 40 CFR, Part 136, July 1, 1990

QC LEVEL: I

LAB ID:	CLIENT ID:	DATE SAMPLED	DATE RECEIVED	DATE EXTRACTED	DATE ANALYZED	QC BATCH	QC BLANK
92-5077A-1	TMW-1	06-08-92	06-10-92	N/A	06-17-92	WW102	A

AnalyticalTechnologies,Inc. 11 East Olive Road Pensacola, Florida 32514 (904) 474-1001

METHOD INSTRUMENT BLANK

BATCH NUMBER: WW102

METHOD: 602 / Federal Register, 40 CFR, Part 136, July 1, 1990

PARAMETERS	DETECTION LIMIT		BLANK A	BLANK B	BLANK C
		ANALYSIS DATE	06-16-92	N/A	N/A
			RESULTS	RESULTS	RESULTS
MTBE	5		BDL	BDL	BDL
BENZENE	1		BDL	BDL	BDL
TOLUENE	5		BDL	BDL	BDL
CHLOROBENZENE	1		BDL	BDL	BDL
ETHYL BENZENE	1		BDL	BDL	BDL
XYLENES	2		BDL	BDL	BDL
1,3-DCB	2		BDL	BDL	BDL
1,2-DCB	2		BDL	BDL	BDL
1,4-DCB	2		BDL	BDL	BDL
TriF-toluene	(70-130)	*SURR*	113	N/A	N/A

NOTE: Units in ug/l = Part Per Billion.
BDL = Below Detection limit.
Samples within the same calibration period may display different dates due to operation past midnight.
Results reported are blank corrected.
Source for control limits is internal laboratory quality assurance program and the method reference.
N/S = NOT SUBMITTED
N/A = NOT APPLICABLE

Analytical**Technologies,**Inc. 11 East Olive Road Pensacola, Florida 32514 (904) 474-1001

REAGENT WATER SPIKE

BATCH NUMBER: WW102

METHOD: 602 / Federal Register, 40 CFR, Part 136, July 1, 1990

COMPOUNDS	SPIKE ADDED	SAMPLE CONC	SPK CONC	SPK REC%#	REC LIMITS
BENZENE	50	BDL	49	98	82-120
TOLUENE	50	BDL	47	94	77-125
CHLOROBENZENE	50	BDL	49	98	86-128

COMPOUNDS	SPIKE ADDED	SAMPLE CONC	SPD CONC	SPD REC%#	% RPD#	QC LIMITS RPD	QC LIMITS REC
BENZENE	50	BDL	50	100	2	11	82-120
TOLUENE	50	BDL	51	102	8	14	77-125
CHLOROBENZENE	50	BDL	50	100	2	13	86-128

Column to be used to flag recovery and RPD values with an asterisk

* Values outside of QC limits

ITEM ID:	ANALYSIS DATE	EXTRACTION DATE	SURROGATE RECOVERY TriF-toluene	QC LIMITS
SPK	06-16-92	N/A	89 %	70-130
SPD	06-16-92	N/A	100 %	70-130

D = DILUTED OUT

NOTE: Units in ug/l = Parts Per Billion.
BDL = Below Detection Limit.
Results reported are blank corrected.
Source for control limits is internal laboratory quality assurance program and method reference.

COMMENTS: _____

_____

_____

Committed to Excellence in Service and Quality
Analytical Technologies, Inc.
11 EAST OLIVE ROAD
PENSACOLA, FLORIDA 32514
(904) 474-1001

SAMPLE INSPECTION AND IDENTIFICATION SHEET/OUT OF CONTROL EVENTS

Client: TERRA ENVIRONMENTAL

ATI Lab ID # 92-5077A

PROJ NUMBER: 92-091 & 92-093

PROJ NAME: COSTAL SYSTEMS STATION

SAMPLED BY: N/S

SAMPLE SITE: PANAMA CITY, FL

SAMPLE DATE: 6/8/92

SAMPLE TIME: PM

SAMPLE TYPE: GROUNDWATER

RUSH: Y (N) QC: N 0 (1) 2 3 4

Date Received: 06/10/92

Is there a chain of custody? (Y) N

Was chain of custody signed? (Y) N

Were samples received cold? (Y) N

Were samples received in proper containers? (Y) N

Were samples preserved correctly? (Y) N

Headspace in volatile bottles? Y (N)

Were samples within holding time? (Y) N

SHIPPED BY: FED EX 2179947033

	SAMPLE	DATE
1	TMW-1	6/8/92
2		
3		
4		
5		
6		
7		
8		
9		
10		
11		
12		
13		
14		
15		
16		
17		
18		
19		
20		

OUT OF CONTROL EVENTS: _____

ATI WILL PERFORM THE SERVICES IN ACCORDANCE WITH NORMAL PROFESSIONAL STANDARD FOR THE INDUSTRY. THE TOTAL LIABILITY OF ATI, ANY AND ALL OFFICERS AND EMPLOYEES OR SUCCESSORS, TO CLIENTS FOR SERVICES PROVIDED, WILL NOT EXCEED THE INVOICE AMOUNT FOR SAID SERVICE. CLIENT ACCEPTANCE OF A PROPOSAL RELEASES ATI FROM ANY LIABILITY IN EXCESS THEREOF.

PM APPROVAL AP 6/10/92 INSPECTED BY GF DATE INSPECTED 6/10/92

TIME 13:00 TIME 1200 # OF REPORTS 1

BLR WS/FORMS/INSPSHEE.TS

92-0574

TERRA ENVIRONMENTAL SERVICES, INC.

14902 Winding Creek Court
Suite 101-C
Tampa, Florida 33613
813-265-1651
(FAX) 813-968-8607

CHAIN-OF-CUSTODY

TERRA PROJECT NUMBER: 92-091 + 92-093
PROJECT NAME: Coastal Systems Station
PROJECT LOCATION: Panama City, FL
LABORATORY: ATI - Pensacola

SAMPLE ID	MATRIX	DATE SAMPLED	TIME SAMPLED	DESCRIPTION OF ANALYSIS	CONTAINER DESCRIPTION	PRESERVATIVE	NUMBER OF CONTAINERS	
TMW-1	GW	6/8/92	PM	EPA 602 + xylenes + MTBE	40 ml septum vial	HCL+Ice / Ice	2	A
HOT-1	oil	6/8/92	PM	PCB's by EPA 608 (list)	3oz widemouth	Ice	1	B1
HOT-3	oil	6/8/92	PM	↓ ↓	↓	↓	1	B2
LCPD-1	Debris	6/8/92	PM	TCLP RCRA Metals	1 liter poly	Ice	1	C1
				(As, Ba, Cd, Cr, Pb, Hg, Ag, Se)				GF 6/10/92
						TOTAL:	5	

METHOD OF SHIPMENT: IN PERSON_____ FEDERAL EXPRESS X OTHER:_____

6/9/92
DATE/TIME

SAMPLES RELINQUISHED BY: Daniel W. Longbrake (NAME) Tetra Environmental Services Inc. (AFFILIATION) 1700 (DATE/TIME)

SAMPLES RECEIVED BY: Craig Foote (NAME) ATI (AFFILIATION) 6/10/92 0820 (DATE/TIME)

SAMPLES RECEIVED BY:_____ (NAME) _____ (AFFILIATION) _____ (DATE/TIME)

TURNAROUND TIME: 24hr 48hr 'normal other: See Attachment SEND RESULTS TO: D. Longbrake

SPECIAL INSTRUCTIONS:_____